

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/JP03/00039

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ H01L21/68, B65G49/06, B65G49/07

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H01L21/68, B65G49/06, B65G49/07, B25J5/00-5/06,
B25J9/00-9/08, B25J15/00-15/12, B25J18/00-18/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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|---------------------------|-----------|----------------------------|-----------|
| Jitsuyo Shinan Koho | 1926-1996 | Toroku Jitsuyo Shinan Koho | 1994-2003 |
| Kokai Jitsuyo Shinan Koho | 1971-2003 | Jitsuyo Shinan Toroku Koho | 1996-2003 |

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-------------|--|--|
| X Y A | EP 1030347 A1 (USHIODENKI KABUSHIKI KAISHA), 23 August, 2000 (23.08.00), Par. Nos. [0034] to [0043]; Fig. 1 & JP 2000-236009 A Par. Nos. [0017] to [0021]; Fig. 1 & US 6318538 B1 | 1 2, 4-8, 11-18, 20-24 3, 9, 10, 19 |
| Y | JP 2001-68525 A (Tokyo Electron Ltd.), 16 March, 2001 (16.03.01), Par. Nos. [0004] to [0006], [0042], [0081]; Figs. 10, 19 (Family: none) | 2, 4-8, 11-18, 20-24 |

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

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|---|--|
| * Special categories of cited documents: | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "E" earlier document but published on or after the international filing date | "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "&" document member of the same patent family |
| "O" document referring to an oral disclosure, use, exhibition or other means | |
| "P" document published prior to the international filing date but later than the priority date claimed | |

Date of the actual completion of the international search
08 April, 2003 (08.04.03)Date of mailing of the international search report
22 April, 2003 (22.04.03)Name and mailing address of the ISA/
Japanese Patent Office

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/JP03/00039

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y | Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 105392/1986 (Laid-open No. 13682/1988) (Sanyo Electric Co., Ltd.), 29 January, 1988 (29.01.88), Page 5, line 9 to page 8, line 16; Figs. 1 to 3 | 4, 7, 8 |
| Y | US 5563520 A1 (Tokyo Electron Ltd.), 08 October, 1996 (08.10.96), Column 4, line 51 to column 5, line 16; Fig. 3 & JP 6-69295 A Par. Nos. [0016] to [0017]; Fig. 2 & KR 248561 B | 6, 7, 8 |
| Y | Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 71959/1990 (Laid-open No. 29380/1992) (Aisan Industry Co., Ltd.), 09 March, 1992 (09.03.92), Page 8, line 11 to page 9, line 13; Figs. 1, 3, 4 | 11, 12, 20 |
| Y | JP 9-197008 A (Mitsubishi Electric Corp.), 31 July, 1997 (31.07.97), Column 3, lines 10 to 11, 22 to 29; column 5, lines 2 to 9; Figs. 1, 6 & KR 215098 B | 13, 21 |
| Y | JP 4-87785 A (Kabushiki Kaisha Purazuma System), 19 March, 1992 (19.03.92), Page 4, upper left column, line 17 to lower right column, line 3; Fig. 3 (Family: none) | 15, 16 |
| Y | JP 8-119409 A (Tokyo Electron Ltd.), 14 May, 1996 (14.05.96), Par. Nos. [0014] to [0016]; Fig. 1 (Family: none) | 17, 18, 20-24 |